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10/022,297

12/12/2001

Koji Morita

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09/12/2002

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EXAMINER

LEWIS, MONICA

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,297

Applicant(s)

MORITA ET AL.

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is in response to the election filed July 9, 2002.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: a) 78, 103b and 103c (See Figure 4); b) 74, 106a and 88 (See Figure 6); c) 98c, 100b, 100c (See Figure 7); d) 108a and 108b (See Figure 8); e) 96a and 102a (See Figure 9); f) 19 (See Figure 15); and g) S33 (See Figure 22). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "72" has been used to designate both printed wiring board and substrate (See Page 6 Paragraph 45). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: a) 104b (Page 8 Paragraph 47); b) 106 and 108 (Page 8 Paragraph 48). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 13 and 16-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the following: a) "corners of the land generally confine the corners of the semiconductor chip" (See Claim 13); b) "corners of the land generally confining the corners of the semiconductor chip" (See Claim 16); c) "corners of the semiconductor chips are positioned on a diagonal line of the rectangular shape" (See Claim 18); d) "the corners of the land are the closest portions to the corners of the semiconductor chip" (See Claim 17); e) "rectangular shape except for the corners" (See Claim 21); and f) "round shape except for the corners" (See Claim 22). Claims 19, 20, and 23-26 depend directly or indirectly from a rejected claim and are, therefore, also rejected under 35 U.S.C. 112, second paragraph for the reasons set above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 8-10 and 13, as far as understood, are rejected under 35 U.S.C. 103(a) as obvious over Ichiyama (U.S. Patent No. 5,373,190) in view of Sakuma (Japanese Patent No. JP406275942A).

In regards to claim 1, Ichiyama discloses the following:

a) a substrate (11), a land (9) formed on the substrate, a semiconductor chip (1A) mounted on the land, a solder layer (12) only through which the semiconductor chip is joined with the land, and a synthetic resin (4) covering the semiconductor chip on the substrate (See Figure 3).

In regards to claim 1, Ichiyama fails to disclose the following:

a) resin covering the land and solder layer.

However, Sakuma discloses resin covering the land and solder (See Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include resin covering the land and solder as disclosed in Sakuma because it aids in protecting the device from external elements.

In regards to claim 2, Ichiyama fails to disclose the following:

a) a coefficient of expansion of the synthetic resin is generally less than a coefficient of expansion of the substrate or a coefficient of expansion of the land.

However, the limitation of "a coefficient of expansion of the synthetic resin is generally less than a coefficient of expansion of the substrate or a coefficient of expansion of the land"

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makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 8, Ichiyama fails to disclose the following:

a) a coefficient of expansion of the synthetic resin is generally less than one of a coefficient of expansion of the substrate and a coefficient of expansion of the land, and is generally greater than the other one of the coefficient of expansion of the substrate and the coefficient of expansion of the land.

However, the limitation of "a coefficient of expansion of the synthetic resin is generally less than one of a coefficient of expansion of the substrate and a coefficient of expansion of the land, and is generally greater than the other one of the coefficient of expansion of the substrate and the coefficient of expansion of the land" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the

process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 9, Ichiyama fails to disclose the following:

a) the coefficient of expansion of the synthetic resin is less than the coefficient of expansion of the substrate and is greater than the coefficient of expansion of the land.

However, the limitation of "the coefficient of expansion of the synthetic resin is less than the coefficient of expansion of the substrate and is greater than the coefficient of expansion of the land" makes it a product by process claim. The MPEP § 2113, states, "Even though product - by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product

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of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 10, Ichiyama fails to disclose the following:

a) the coefficient of expansion of the synthetic resin is less than the coefficient of expansion of the land and is greater than the coefficient of expansion of the substrate.

However, the limitation of "the coefficient of expansion of the synthetic resin is less than the coefficient of expansion of the substrate and is greater than the coefficient of expansion of the land" makes it a product by process claim. The MPEP § 2113, states, "Even though product-by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also

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In re Brown and Saffer, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 13, Ichiyama discloses the following:

a) the semiconductor chip defines at least two corners positioned generally opposite to each other, the land defines at least two corners in proximity to the corners of the semiconductor chip (See Figure 3).

11. Claims 3-5, 11 and 12 are rejected under 35 U.S.C. 103(a) as obvious over Ichiyama (U.S. Patent No. 5,373,190) in view of Sakuma (Japanese Patent No. JP406275942A) and Baba et al. (U.S. Patent No. 5,969,426).

In regards to claims 3 and 11, Ichiyama fails to disclose the following:

a) substrate comprises aluminium.

However, Baba et al. ("Baba") discloses an aluminum substrate (See Column 1 Lines 40-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include an aluminum substrate as disclosed in Baba because it provides low resistivity and good current carrying density.

In regards to claims 4 and 12, Ichiyama fails to disclose the following:

a) a coefficient of expansion of the synthetic resin is generally less than a coefficient of expansion of aluminum.

However, the limitation of "a coefficient of expansion of the synthetic resin is generally less than a coefficient of expansion of aluminum" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 5, Ichiyama fails to disclose the following:

a) the coefficient of the linear expansion of the synthetic resin is generally less than approximately 23 ppm/K.

However, the limitation of "a coefficient of expansion of the synthetic resin is generally less than a coefficient of expansion of aluminum" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a

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product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as obvious over Ichiyama (U.S. Patent No. 5,373,190) in view of Sakuma (Japanese Patent No. JP406275942A), Baba et al. (U.S. Patent No. 5,969,426) and Shin et al. (U.S. Patent No. 5,844,305).

In regards to claim 6, Ichiyama fails to disclose the following:

a) land comprises copper.

However, Shin et al. ("Shin") discloses a copper land (See Column 1 Lines 47-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include a copper land as disclosed in Shin because it aids in increasing the overall speed of the circuit.

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13. Claim 7 is rejected under 35 U.S.C. 103(a) as obvious over Ichiyama (U.S. Patent No. 5,373,190) in view of Sakuma (Japanese Patent No. JP406275942A), Baba et al. (U.S. Patent No. 5,969,426) and Nippon (Japanese Publication No. JP53143656A).

In regards to claim 7, Ichiyama fails to disclose the following:

a) synthetic resin includes epoxide.

However, Nippon discloses a synthetic resin that includes epoxide (See Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include a synthetic resin that includes epoxide as disclosed in Nippon because it aids in increasing the moisture resistance and mechanical strength.

14. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as obvious over Ichiyama (U.S. Patent No. 5,373,190) in view of Sakuma (Japanese Patent No. JP406275942A) and Yamanashi (Japanese Patent No. JP02000253570A).

In regards to claim 14, Ichiyama fails to disclose the following:

a) the semiconductor chip controls electric power.

However, Yamanashi discloses a chip that controls power (See Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include a chip that controls power as disclosed in Yamanashi because it aids in preventing damages to the motor controller.

In regards to claim 15, Ichiyama fails to disclose the following:

a) the semiconductor chip controls power of an electric motor arranged to drive an electric vehicle.

However, Yamanashi discloses a chip that controls power (See Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ichiyama to include a chip that controls power as disclosed in Yamanashi because it aids in preventing damages to the motor controller.

15. Claims 16-24 and 26, as far as understood, are rejected under 35 U.S.C. 103(a) as obvious over Ujiie et al. (Japanese Patent No. JP411219981A).

In regards to claim 16, Ujiie et al. ("Ujiie") discloses the following:

a) a substrate (2), a land (2a) formed on the substrate, a semiconductor chip (1) mounted on the land, a solder layer (4) joining the semiconductor chip with the land, the semiconductor chip defining at least two corners positioned generally opposite to each other, the land defining at least two corners disposed in proximity to the corners of the semiconductor chip (See Figure 10).

In regards to claim 17, Ujiie discloses the following:

a) corners of the land are the closest portions to the corners of the semiconductor chip (See Figure 4).

In regards to claim 18, Ujiie discloses the following:

a) the semiconductor chip is generally configured as a rectangular shape (See Figure 4).

In regards to claim 19, Ujiie discloses the following:

a) the semiconductor chip defines four corners, and the land defines four corners corresponding to the corners of the semiconductor chip (See Figure 4).

In regards to claim 20, Ujiie discloses the following:

a) at least a length of a shorter side of the rectangular shape is longer than approximately 2.5 millimeters.

However, the applicant has not established the critical nature of the dimension of 2.5 millimeters. "The law is replete with cases in which the difference between the claimed

invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 21, Ujiie discloses the following:

a) land is generally configured as a rectangular shape except for the comers (See Figure 4).

In regards to claim 22, Ujiie fails to disclose the following:

a) a round shape except for the comers.

Although Ujiie does not specifically disclose a round land, a land in another shape is disclosed. It is a design choice to have a round land. The round land functions the same as a land of another shape.

In regards to claim 23, Ujiie discloses the following:

a) area of the land is larger than an area of the semiconductor chip, and the area of the land generally shrinks toward the comers of the semiconductor chip (See Figure 4).

In regards to claim 24, Ujiie discloses the following:

a) area of the land is larger than an area of the semiconductor chip, and the area of the land generally expands from the comers of the semiconductor chip (See Figure 4).

In regards to claim 26, Ujiie fails to disclose the following:

a) semiconductor chip is joined with the land in a reflow soldering method.

However, the limitation of “reflow soldering method” makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in

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product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

16. Claim 25, as far as understood, is rejected under 35 U.S.C. 103(a) as obvious over Ujiie et al. (Japanese Patent No. JP411219981A) in view of Yamanashi (Japanese Patent No. JP02000253570A).

In regards to claim 25, Ujiie fails to disclose the following:

a) the semiconductor chip controls electric power.

However, Yamanashi discloses a chip that controls power (See Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Ujiie to include a chip that controls power as disclosed in Yamanashi because it aids in preventing damages to the motor controller.

Conclusion

17. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: a) Higashiguchi et al. (U.S. Patent No. 5,783,865) discloses a wiring substrate and a semiconductor device; b) Saito et al. (U.S. Patent No. 5,808,878) discloses a circuit substrate shielding device; c) Fukasawa (U.S. Patent No. 5,973,931) discloses a printed wiring board and electronic device; d) Murakami (Japanese Patent No. JP409330993A) discloses a semiconductor device; and k) Yanagisawa (Japanese Patent No. JP363213936A) discloses a hybrid integrated circuit device.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 703-305-3743.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 703-308-4940. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

September 5, 2002


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800